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Stage-structured dispersal in marine species with a pelagic larval stage.

Aquatic species often have radically different dispersal mechanisms at different life history stages. For example, a rapidly dispersing pelagic larval stage dispering in a current and a sessile or slow dispersing adult stage. We use a structured integro-difference equation model of the the spread of the green crab up the northwest coast of the Atlantic as a case study to examine the dependence of invasion dynamics on both adult and larval dispersal. Adding an additional dispersive stage increases invasion spread rates. However, it is unclear how the sensitivity of spread rate to underlying parameters might change with additional dispersive stages. Knowledge on the sensitivity of spread rate to demographic and dispersal parameters helps inform management strategies.